

ALKALINE ELECTROLYTE FUEL CELL SYSTEM

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Abstract of JP1124962

PURPOSE:To quickly preheat a fuel cell main body by burning purge H₂ and purge O₂ produced when N₂ is replaced by reaction gas in a catalyst combustor, and by circulating the reaction gas containing heated N₂ to each unit cell.

CONSTITUTION:H₂ or purge H₂ supplied to a H₂ circulation circuit 11 is used as a fuel gas, and O₂ or purge O₂ supplied to an O₂ circulation circuit 21 is used as an oxidizing agent gas. A heating device including a catalyst combustor 44 is connected to the H₂ circulation circuit 11 or the O₂ circulation circuit 21 and an inert gas supply passage 31 through a valve. A fuel cell main body 1 is preheated to a specified temperature necessary for power generation. By utilizing the time required to replace N₂ with reaction gas and reaction gas which is usually exhausted because of containing N₂, the fuel cell main body whose temperature is 15 deg.C or lower is preheated to a temperature of several tens degrees centigrade necessary for power generation without specific preheating time and a specific energy source.

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